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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/664,857

09/22/2003

Kenji Umayahara

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EXAMINER

WILLS, MONIQUE M

ART UNIT

PAPER NUMBER

1728

NOTIFICATION DATE

DELIVERY MODE

02/17/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/664,857	Applicant(s) UMAYAHARA ET AL.	
	Examiner Monique M. Wills	Art Unit 1728	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-12 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,6-12 and 25 is/are allowed.
- 6) ☒ Claim(s) 1,4,24 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is in response to the amendment filed November 16, 2010. The claims are treated as follows:

- Claims 3, & 6-7 & 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- Claims 8-12 are allowed.
- Claims 1, 5 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655.
- Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Yonetsu et al. U.S. Pub. 2003/0082421.

Allowable Subject Matter

Claims 3, 4 & 6-7 & 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The instant claims are allowable over the prior art of record, because the prior art is silent to the generation of the alert being implement when fuel is consumed during the furl cell system performing

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a heat-retention operation (claims 3 & 6-7). With respect to claim 4, the claim is allowable because the prior art is silent to the alert being sent to an information terminal of the user using wireless communication. With respect to claim 25, the instant claim is allowable because the prior art is silent to the information terminal being selected from a cell phone, PDA, personal computer or house phone.

Claims 8-12 are allowed. The instant claims are allowable over the prior art of record, because the prior art is silent to the alert method of claim 8 including an information terminal of a user at a location away from the moving body using wireless communication.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655.

With respect to **claim 1**, Itou teaches an alert method relating to a remaining fuel amount of the fuel cell system comprising: switching from an operation state of the fuel cell system to a stopped state of the fuel cell system (par. 25); detecting that the fuel

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cell system is switched to a stopped state, embraced by the energy amount required to restate the fuel cell system 50 is a computed from the detected outside temperature (par. 25); communicating information related to the remaining fuel amount when fuel of the fuel cell system is connected to an information terminal wherein the fuel cell system is switched to a stopped state (par. 22). With respect to **claim 2**, an alert, warning message or alarm is played on a speaker when the fuel amount is low. See paragraph 22. With respect to **claim 5**, when the fuel cell system 50 has stopped with the warning message an audio message or alarm is issued from a speaker, embracing generating the alert for the user being implemented multiple times in response the remaining fuel amount. See paragraph 35.

Itou does not expressly disclose alerting a user located at a point away from a moving body using wireless communication so that the fuel cell is disposed on (**claim 1**) or that the remaining fuel amount is reduced when fuel of the fuel cell system is consumed in the stopped state (**claim 24**).

However, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to alert a user located at a point away from the moving body using wireless communication so that the fuel cell of Itou is disposed on, in order to improve user efficiency by equipping the driver with operating conditions of the vehicle. Further, Itou strongly suggest said arrangement, by teaching an audio alarm that is played on a speaker when the fuel cell amounts low. See paragraph 22. Depending on how audible the sound, a user outside the vehicle may be on alert that fuel amounts are low.

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With respect to **claim 24**, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to reduce fuel amount when fuel is in the stopped state, in order to obviate waste and overflow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Yonetsu et al. U.S. Pub. 2003/0082421.

Itou teaches a fuel cell system arrangement as described in the rejection recited hereinabove, including fuel amount detection sensor 22 which detects the fuel amount remaining in the fuel tank 12. See paragraph 22.

Itou does not expressly disclose that the fuel amount is based on tank pressure or tank weight.

However, Yonetsu teaches that it is well known in the art use tank pressure to determine fuel amounts. See the Abstract and paragraph 134.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the tank pressure based determination

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of fuel amounts Yonetsu, as the sensor methods of Itou in order to improve accuracy of fuel amount measurements.

Response to Arguments

Applicant's asserts that Ogawa does not expressly disclose communicating information related to the remaining fuel amount to an information terminal of a user located at a point away from a moving body using wireless communication so that the fuel cell system. Specifically, because claim 4 has been allowed. This argument is not persuasive as claim 4 required wireless communication and claim 1 does not. Upon further consideration, the limitation is satisfied *because* it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to alert a user located at a point away from the moving body using wireless communication so that the fuel cell of Itou is disposed on, in order to improve user efficiency by equipping the driver with operating conditions of the vehicle. Further, Itou strongly suggest said arrangement, by teaching an audio alarm that is played on a speaker when the fuel cell amounts low. See paragraph 22. Depending on how audible the sound, a user outside the vehicle may be on alert that fuel amounts are low.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1424. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Jennifer Michener, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/

Examiner, Art Unit 1795

/Jennifer K. Michener/

Supervisory Patent Examiner, Art Unit 1728